STATEMENT OF WORK
for
AML-2070, Radar Product Division, Structural Support Branch
Replacement of Guy-Line Anchors, and General Structural Repair
On FAA Towers at PIT RCAG Site
Pittsburgh, PA

1.0 BACKGROUND

The Office of AML-2070, Radar Product Division, Structural Support Branch's mission is to provide logistics support for all FAA ATC Radar systems as well as Radar systems within other government agencies and internationally.

The need for this requirement is for the contractor to provide assistance to the FAA/AML-2070 site services personnel with the removal and subsequent reinstallation of a total of 4 Guy-Line Anchors on three towers, and a total of four tower horizontal base members on one tower at the Pittsburgh RCAG.

This Statement of Work describes the requirements of AML-2070, Structural Support Branch in order to accomplish the necessary maintenance.

2.0 SCOPE OF WORK

Duties will be multi-faceted. The contractor shall provide one experienced technician and all necessary hardware and other related equipment required to remove and replace the 4 Guy-line anchors and the one structural member. The contractor will accomplish the proper and safe removal and replacement of the existing ground anchors and the tower structural members. The contractor will also properly secure the guy-lines during the period of anchor replacement and concrete cure. After the replacements, the contractor will assist AML-2070 personnel with a final re-commissioning inspection of the repaired and replaced components, to include guy-line tensioning checks and concrete hardness tests on each affected tower and tower component.

3.0 REQUIREMENTS

The contractor shall provide technicians and all necessary tools, hardware and other related equipment required to remove, temporarily secure, and reinstall the guy-line ground anchors at the Pittsburgh RCAG Site. The contractor is responsible for shipping the required tools and equipment to and from the work site and travel. FAA/AML-2070 shall provide Engineering Supervision during the project and work completion acceptance oversight.

4.0 PLACE OF PERFORMANCE

The Contractor shall perform the required work at the Pittsburgh RCAG Site, Pittsburgh International Airport, Moon Township, Pennsylvania.

The point of contact will be: **Lanny Grade P.E., Work: 405-954-9942**, **Mobile: 405-229-9457**, **Email: Lanny.Grade@faa.gov ,** FAA Contracting Officer's Technical Representative (COTR)

5.0 TIME OF PERFORMANCE

The contractor shall be able to meet the below on site work schedule, however must remain flexible due to changes in local weather. Inclement weather will significantly impact the ability to perform the required work and therefore these dates may need to be adjusted accordingly, with completion to be accomplished no later than October 22, 2010.

Temporary Anchoring, Excavation, Anchor Replacement, and concrete forming and pouring:

Target Date	Start Time	Estimated Stop Time
September 6, 2010	0800	1800
September 7, 2010	0800	1800
September 8, 2010	0800	1800

(Allow concrete to cure a minimum of seven (7) days and to achieve 4000 psi before attaching guy-lines.)

Concrete Cure: September 8 through September 15, 2010

Contractor Technicians and AML-2070 Engineer & Technician, and SSC Manager, FAA Site Representative to be present:

Hardness Test, Re-attachment and Tensioning and Inspection:

Target Date	Start Time	Estimated Stop Time
September 16, 2010	0800	1800

(Inspection to be accomplished by the Contractor and AML-2070 Engineer and Technician in accordance with FAA Order 6930.25A, Chapters 3, 4, & 5.

Acceptance will be determined by the FAA Contracting Officer's Technical Representative (COTR). SSC Manager and, or FAA Site Representative to be present.

6.0 Additional Details

6.1 Site Description:

The PIT RCAG facility is comprised of four guyed tower 80 & 90 feet in height. The RCAG is located near the Pittsburgh Airport.

This site is a vital part of the National Airspace System (NAS) and the equipment associated with the RCAG shall remain in constant operation without interruptions, during the project. Instrument or equipment failure could have severe repercussions involving traffic in air space regulated by the FAA. The Contractor shall be required to institute practices to avoid such occurrences. The FAA Site Representative shall constantly monitor all procedures instituted by the Contractor.

6.2 General Tower Repairs:

The Contractor shall provide all materials, labor, tools, equipment, rigging, and supervision necessary to perform the following:

1. Replace four guy cable anchors with new anchors. One on tower T-1, one on tower T-2, and two on tower T-4, as indicated in the attached diagram. The anchors shall be minimum ASTM A-36 hot dipped galvanized steel with a minimum diameter of 3/4 inch.

2. Anchor rod shall be completely embedded in concrete except for the guy attachment eye which shall be approximately 12" above the concrete cap.

3. The concrete dead man will be as shown in the attached illustration with the anchor cross piece(s) embedded approximately in the center.

4. The anchors shall protrude from the concrete at approximately 45 degrees from horizontal.

5. Install per illustration with dimensions from chart row as follows:

   Slope =12-12 Form = B-10 Maximum uplift = 9,000# Anchor = 6C

   Dead-man dims: Base A = 4'-6" Sq. Top B = 3'-6" Sq. Height C = 3'

   Cross Piece embedded D = 1'-6" and depth of center line E = 5'-6" below grade

6. If existing anchor is abandoned, cut the rod at least 12" below grade.

7. After concrete has cured, re-attach the guy lines. Re-tension guy cables to the proper tension and perform alignment measurement and adjustment procedure to assure the towers are plumb and straight.

8. The contractor shall remove and replace the existing horizontal base angles on Tower T-3, the gusset plates shall be replaced. The replacement members shall match the existing members. All material shall be minimum ASTM A-36 steel and shall be hot dipped galvanized. All bolts shall meet ASTM A-325 requirements. Anchor fastening bolts and nuts shall be replaced.

9. Temporary anchorage shall be provided while permanent anchorage is under construction. These anchorages may be temporary earth anchorage or surface ballast anchorages or construction vehicle anchorage, but must be adequate to prevent damage to the tower system and function.

10. Any welding shall be in accordance with the American Welding Society (AWS) Structural Welding Code using AWS qualified welders, welding operators, and fitters. Steel in the weld area shall be stripped to bare metal prior to welding.

11. The contractor shall apply cold galvanizing compound to any areas that are cut, nicked or otherwise had the coating disturbed. No sharp edges shall remain after cutting and assembling materials.

12. The contractor shall seal the concrete anchor caps. The concrete must be dry, solid, clean, and free of oil, wax, grease, asphalt, latex compounds, curing compounds and any contaminant that may act as a bond breaker. The concrete shall be sealed with

ARDEX Concrete Guard, ChemCrete PaviX CCC100, or an approved equal. Sealer shall be applied in accordance with the manufacturer's recommendations.

13. The contractor shall ensure that weep holes are clear and not obstructed. The contractor shall provide weep holes if they are not present.

14. The contractor shall replace any missing or loose fasteners found on the tower structure with approved fasteners with provisions to prevent loosening.

6.3 Rights

The FAA shall have ***UNLIMITED RIGHTS*** under this contract to all information and materials developed under this contract and furnished to the FAA and documentation thereof, reports and listings, and all other items pertaining to the work and services pursuant to this agreement including any copyright. Unlimited rights under this contract are rights to use, duplicate, or disclose data and information, in whole or part in any manner and for any purpose whatsoever without compensation to or approval from Contractor. The FAA will at all reasonable times have the right to inspect the work and will have access to and the rights to make copies of the above-mentioned items. All digital files and data, and other products generated under this contract shall become the property of the FAA.

6.4 Requirements of the Contractor

Any personnel assigned to this project shall meet the following requirements:

6.4.1 Shall be trained in elevated work construction in accordance with the fall protection standards of the Occupational Safety and Health Administration (OSHA). Copies of appropriate training certification shall be submitted prior to mobilization.

6.4.2 The Contractor shall provide all required personal protective equipment (PPE) needed to successfully complete the project.

6.4.3 The Contractor shall provide the following information in an organized manner to the FAA Safety & Environmental Compliance Manager (SECM):

1. The name and contact information of a readily accessible company representative(s) for emergencies.

2. Written Fall Protection and Personal Protective Equipment Programs.

3. Material Safety Data Sheets (MSDSs) for all chemicals to be used in the execution and completion of this project.

6.5 Restrictions and Security Concerns:

The Contractor is advised that the towers are part of a secured facility and all personnel, possessions, equipment, materials, vehicles, etc. are subject to inspection at the discretion of security personnel while on the premises. All Contractor personnel shall maintain on their person, at all times while on the grounds, current photo identification. Contractor personnel shall be prepared to relinquish their identification for review by security at any time while on the grounds.

The FAA Site Representative shall supply appropriate keys to the Contractor's on-site supervisor, when applicable. All facility keys will be returned to the FAA Site Representative at the completion of each day's activities. The Contractor supervisor is solely responsible for facility key while in his/her possession. In the event of a loss of

facility keys, the Contractor supervisor will be responsible for the cost of installation of new key capacity. The Contractor shall provide the FAA Site Representative with a list of the personnel requiring access to the site. This list shall include the employee's full name, social security number, and the date of birth. It will be necessary to coordinate all activities with the FAA Site Representative to minimize interference with site operations.

6.6 Special Contractor Requirements:

The following is a list of special requirements the Contractor will need to be aware of:

6.6.1 Pre-Construction Meeting - The Contracting Officer will arrange a conference at a location mutually agreeable to the FAA Representative and Contractor after the contract has been awarded. It will be mandatory that key Contractor personnel or their representatives attend.

6.6.2 Site Visit - It is strongly recommended that the Contractor make a site visit prior to submitting a quote. Arrangements for a site visit shall be made through the facility point of contact. All site visits shall be arranged through the Pittsburgh SSC Manager.

6.6.3 Work Schedule - Normal work hours will be from 8 am to 4:30 pm, Monday through Friday. All work outside of the normal time frame will be coordinated with the COTR. The contractor shall give a minimum of 48 hours notice prior to commencing with work outside of normal work hours.

6.7 Final Inspection:

After completion of all contracted work, a final inspection will be held with the SSC Manager and the FAA Site Representative. The inspection shall be conducted in such a manner as to provide a detailed review of all work performed, to ascertain that all contracted work is completed in accordance with the Scope of Work, disturbed areas restored, and installation areas cleared and left in satisfactory condition.

6.7.1 Regulatory Compliance:

All work shall be performed in accordance with Federal, state, and local regulatory requirements. In cases where regulations and/or contract documents are conflicting or discrepancies occur, the more stringent requirement shall be followed and enforced. Applicable regulations include, but are not limited to:

6.7.2 Occupational Safety and Health Administration (OSHA)

- 29 CFR 1910.23 *Guarding Floor and Wall Openings and Holes*
- 29 CFR 1910.27 *Fixed Ladders*
- 29 CFR 1910.268 *Telecommunications*
- 29 CFR 1926 Subpart M *Fall Protection*
- 29 CFR 1926.62 *LEAD*

6.7.3 United States Department of Transportation, Federal Aviation Administration (FAA)

- FAA Order 3900.19B *Occupational Safety and Health*
- FAA Order 6930.25A MAINTENANCE OF STRUCTURES AND BUILDINGS

6.7.4 Federal Specification RR-S-0011301 (FAA) *Safety Equipment, Climbing*

6.7.5 American National Standards Institute (ANSI) A14.3-1984 or newer *American National Standard for Ladders – Fixed*

6.7.6 American National Standards Institute (ANSI) TIA-222-G or newer *Structural Standard for Antenna Supporting Structures and Antennas.*

6.7.7 Additional requirements may be incorporated by reference in the above-mentioned documents.

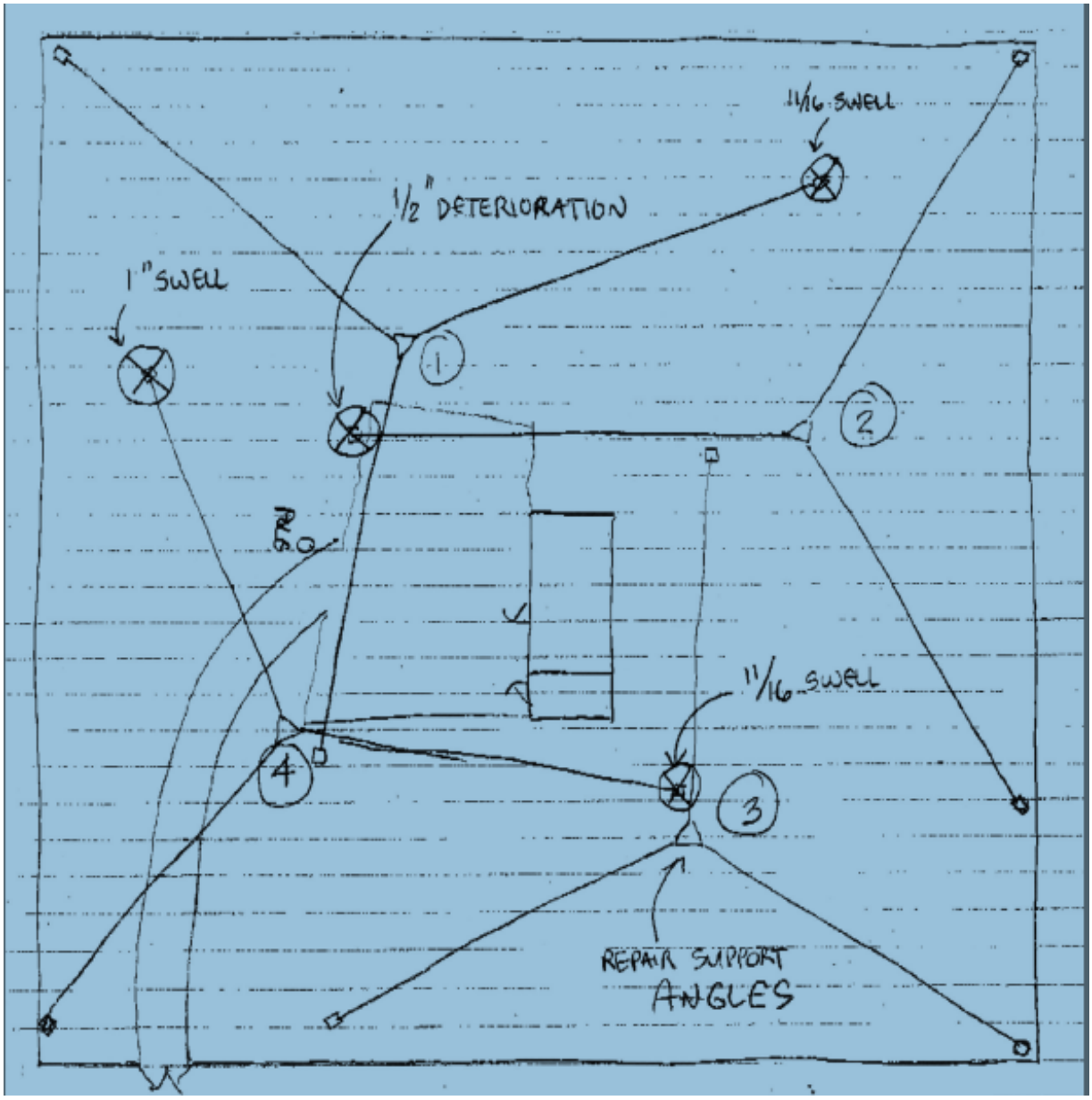
6.8 Responsibility for Damages:

The FAA seeks to avoid any activities by the Contractor that may lead to damage of government property. The Contractor is therefore advised to take all necessary precautions to avoid potentially damaging activities. The Contractor is advised to place special emphasis on avoiding unnecessary contact including jarring, touching, placing tools on, etc. any equipment. In addition, all devices, electrical plugs, equipment, etc. must be safely maintained as damage could reduce the effectiveness of existing air traffic control activities. Any such damage resulting from neglect or unreasonable actions by the Contractor's personnel shall be repaired or replaced by the Contractor at no additional cost to the government. If the Contractor fails or refuses to make such repairs or replacements, the Contractor shall be liable for the cost, which may be deducted from the contract price. A comparison of the initial inspection and final inspection reports and acceptance of each area by the FAA Site Representative shall be the basis for assessment of any damages, if any.

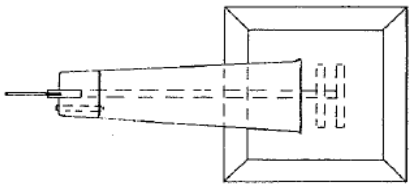
Appendix A

Anchor Replacement Location Diagram

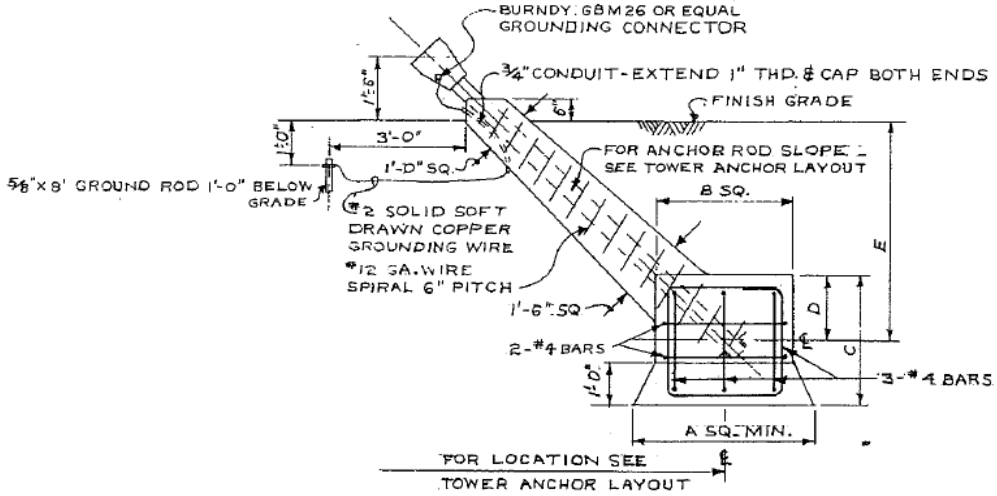
(Field sketch)



Tower Anchor Layout



PLAN



ELEVATION

NOTES:

1. WHEN SOIL CONDITIONS PERMIT, THE ANCHOR PAD IS TO BE POURED WITHOUT FORMS IN UNDISTURBED EARTH.
2. FIRST FIGURE IN "SLOPE OF ANCHOR" COLUMN REPRESENTS HORIZONTAL FIGURE.
3. FURNISH GROUNDING AS SHOWN FOR EACH TOP GUY ANCHOR

SLOPE OF ANCHOR	FORM NUMBER	MAXIMUM UPLIFT	ANCHOR MK. NO.	A	B	C	D	E
12÷8	B-1	10,000#	6C	4'-6"	3'-6"	3'-0"	1'-8"	4'-0"
12÷8	B-2	12,000#	6C	5'-0"	4'-0"	3'-6"	2'-0"	4'-0"
12÷8	B-3	12,000#	6C	5'-0"	4'-0"	3'-6"	2'-0"	4'-0"
12-9	B-4	9,000#	6C	4'-0"	3'-0"	3'-0"	1'-8"	4'-6"
12-10	B-5	15,000#	6C	4'-6"	3'-6"	4'-0"	2'-3"	5'-0"
12-10	B-6	19,000#	6B	5'-0"	4'-0"	4'-0"	2'-0"	5'-0"
12-11	B-7	14,000#	6A	5'-0"	4'-0"	3'-0"	1'-6"	5'-3"
12-11	B-8	17,000#	6B	5'-0"	4'-0"	3'-6"	2'-0"	5'-3"
12-11	B-9	11,000#	6C	5'-0"	4'-0"	3'-0"	1'-6"	5'-3"
12-12	B-10	9,000#	6C	4'-6"	3'-6"	3'-0"	1'-6"	5'-6"
12-12	B-11	17,000#	6A	5'-6"	4'-6"	3'-0"	1'-8"	5'-6"
11-12	B-12	18,000#	6A	5'-0"	4'-0"	4'-0"	2'-6"	6'-0"
11-12	B-13	22,000#	6B	5'-6"	4'-6"	4'-0"	2'-3"	6'-0"
11-12	B-14	24,000#	6B	5'-6"	4'-6"	4'-6"	2'-6"	6'-0"
10-12	B-15	12,000#	6C	4'-6"	3'-6"	3'-6"	2'-0"	6'-3"
10-12	B-16	19,000#	6A	5'-0"	4'-0"	4'-0"	2'-6"	6'-3"